



NASA ACADEMY



GODDARD SPACE FLIGHT CENTER

A large, stylized graphic consisting of two red, curved lines that resemble a rocket's path or a plasma tail, intersecting at the center. A yellow, glowing ring or orbit surrounds the intersection. The background is white with scattered blue and grey stars.

**2004
PROFILE BOOK**

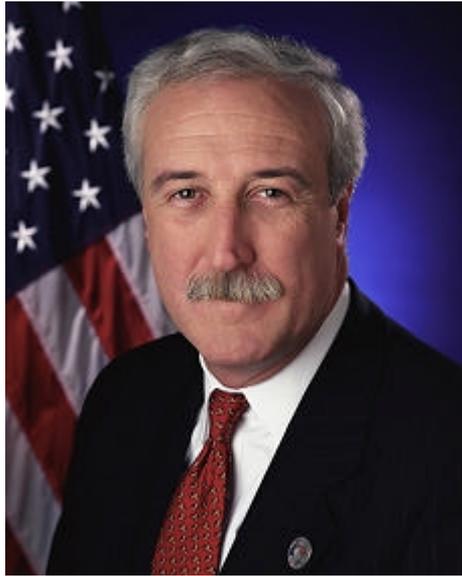
University Programs Office, Mail Code 603.1
NASA Goddard Space Flight Center
Greenbelt, MD 20771

<http://academy.gsfc.nasa.gov/2004/>

**2004 NASA ACADEMY AT THE
GODDARD SPACE FLIGHT CENTER**

**2004
PROFILE BOOK**

**University Programs Office, Mail Code 603.1
NASA Goddard Space Flight Center
Greenbelt, MD 20771
<http://academy.gsfc.nasa.gov/2004/>**



Sean O'Keefe, NASA Administrator

"This is NASA's vision for the future. Our mandate is:

- To improve life here,
- To extend life to there,
- To find life beyond

So, how do we get to that impressive picture of the future?

Part of the answer is by executing NASA's mission:

- *To understand and protect our home planet*
- *To explore the Universe and search for life*
- *To inspire the next generation of explorers
... as only NASA can."*

(From the Address by the Honorable Sean O'Keefe, NASA Administrator, at the Maxwell School of Citizenship and Public Affairs, Syracuse University, New York, April 12, 2002)



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Program Description

The NASA Academy is an intensive resident summer program of higher learning for college undergraduate and graduate students interested in pursuing professional and leadership careers in space-related fields.

The NASA Academy program is designed to present a comprehensive package of information and experiences about the organization of the NASA Agency, some of its most important current and planned science, engineering, education, and technology enterprises, as well as a number of non-technical areas of critical significance, such as management, budgeting, safety, personnel and career development, leadership, space law, international cooperation, etc. Besides attending lectures and workshops, you will be involved in supervised research in GSFC laboratories, and will participate in visits to NASA Headquarters, other NASA Centers and facilities, the Applied Physics Laboratory, and a number of space-related academic laboratories and industries.



Eligibility, Selection Criteria, and Placement

The 19 participants in the 2004 NASA Goddard Academy have been selected from a pool of 742 financially supported applicants representing 250 institutions, 41 states in the continental USA, Puerto Rico, and France. Selection was based following criteria:

- academic rank (junior, senior, first, or second year graduate)
- academic performance (GPA higher than 3.0 or equivalent)
- demonstrated interest in the space program
- demonstrated leadership qualities
- research and/or project interest and experience
- maturity
- recommendation and references
- citizenship or permanent residence is required for US applicants

Both the selection process and placement of the Academy participants in Goddard's research groups were assisted by recommendations from faculty, administrators, academic supervisors, and co-workers, and the applicants' self-profiling essays.



A Brief History of the NASA Academy

The NASA Academy was founded in 1993 (as the "NASA Space Academy") at the Goddard Space Flight Center by Gerald (Jerry) Soffen, former Mars Viking project scientist, architect of the NASA Astrobiology program, and first Director of the Goddard Office of University Programs. Jerry was an accomplished scientist and a dedicated educator. He took advantage of the unusual opportunities presented to him during his career and realized the importance of mentoring in the life of young professionals. In his vision, the Academy was intended to exceed in purpose and content all the other regular internships by familiarizing its participants with as many facets of the NASA agency as possible. With his dynamic personality and unique leadership, he opened many gateways and defined a new standard of excellence.

"To give possible 'leaders' a view into how NASA, the university community, and the private sector function, set their priorities, and contribute to the success of the aerospace program."

*Gerald Soffen, Founder
(1926-2000)*

As the reputation of the Goddard Academy widened, new NASA Academy Programs were started at the Marshall Space Flight Center (1994), the Ames Research Center (1997), and the Dryden Flight Research Center (1997). In recent years, the Goddard and Ames Academies have functioned regularly.

The name of the program changed from "NASA Space Academy" to "NASA Academy" at specific NASA Centers. A continuous effort is being made to establish or re-establish Academies at various NASA Centers, with different profiles and focus areas.

Jerry Soffen died on November 22, 2000. We honor his legacy by continuing the Academy program that he loved so well.

In 2002, the NASA Academy celebrated ten years of successful activity. So far, 396 participants have graduated from the program.

In 1996, a German engineering student from the Imperial College in London, England, attended the Goddard Academy, as did an Italian student from La Sapienza in Rome, Italy, in 1999. This year, as part of a pilot international program, a French student will attend the Goddard Academy, and the International Space University (ISU) will contribute a staff member, as they have done since 2002.



Danielle R. Adams

Massachusetts Institute of Technology

Cambridge, Massachusetts
Aeronautical/Astronautical Engineering
Bachelor of Science, December 2004



NASA Academy Research Project:

Flux Transformers for Magnetic Calorimeter X-ray
Detector Arrays
Principal Investigator: Tom Stevenson, Code 553

E-mail:

dradams@mit.edu

Current Address:

428 Memorial Drive
Cambridge, MA 02139

Permanent Address:

671 Robinhood Drive
Maitland, FL 32751

Academic and Research Experience

- *Massachusetts Institute of Technology (MIT) - Cambridge, MA, 2000 - Present*
- *MIT Space Systems Laboratory, Undergraduate Research at MIT - Cambridge, MA, Jun 2003 - Present*
Upgraded test bed for ISS flight hardware developing formation flight of satellites (SPHERES project): used CAD and machine shop to redesign and construct an air carriage; also developed demonstration videos for grant proposals for research on tethered satellite flight
- *MIT Edgerton Center, Research Assistant - Cambridge, MA, Spring 2001*
Worked in a wood shop developing appropriate technology solutions for farmers in Botswana.
- *Kennedy Space Center, NASA Summer High School Apprenticeship Research Program - Orlando, FL, Jun 1999 - Jul 1999*
Updated webpage of ISS Logistics.

Publications

- *"Three Principles of Powered Flight: An active learning approach"*
Co-Author, American Society for Engineering Education National Conference, Jun 2003

Work Experience

- *Massachusetts Institute of Technology, Teaching Assistant - Cambridge, MA, Fall 2002*
Graded homework, worked in office hours, set up labs

- *Massachusetts Institute of Technology, Reach-out Tutor - Cambridge, MA, Fall 2001*

Worked as one-on-one tutor with elementary children helping improve their reading skills

Memberships and Activites

- United Christian Fellowship, President, 2003 - 2004
- MIT Public Service Center trip to Kenya, Organizer, Jan 2004
- Delta Psi Fraternity, Member, Fall 2000 - Present
- Concilio Hispano (a bilingual social services center), Volunteer, Fall 2003
- Homeless Children Int'l. - Kenya, Volunteer, Summer 2001, 2002
- Harvest Food Pantry, Volunteer, Fall 2000 - Spring 2001
- National Conference of American Society for Engr. Education, 2003
- National Conference of Engineers Without Frontiers, 2003

Skills and Certifications

- Computer Skills: CAD, Microsoft Office, Matlab
- Language Skills: Spanish (reading, writing, and speaking)
- Experience in the machine shop and wood shop
- Experience with ICE-Maker concurrent engineering software tool
- Experience with Computational Fluid Dynamics Analysis

Honors and Awards

- Award for Academic Excellence from Office of Minority Education
- 2000 National Achievement

Hobbies and Interests

Space telescopes, Spanish language and culture, volunteer work, teaching/tutoring, leadership, music, reading, astronomy

Personal Statement

"Borrowing from a tradition of my co-ed fraternity, I'll give my biography as the 3 phases of my dreams about the future. In the naïve and idealistic days of childhood in Orlando, Florida all seemed perfect. I wanted to be a mail carrier when I grew up because receiving a letter was the most magical thing I knew. I also imagined I'd become famous for something - maybe for writing my autobiography. In middle school, perhaps motivated by the disaster that was my family life after my parents divorced when I was 12, my career aspiration was architectural engineer, specializing in natural-disaster proof housing. In high school, while attending a magnet school for the visual and performing arts, I held onto the idea of being an engineer, but turned my eyes upward and decided to pursue aerospace engineering. That goal has stayed with me into college."



Western Michigan University

Kalamazoo, Michigan
Computer Engineering
Bachelor of Science, April 2004



NASA Academy Research Project:

Development of Secure Second Generation
Database-centric and Web-based Applications for
Automation of Administration Activities on NCCS
High End Computing (HEC), Mass Storage and Support Systems
Principal Investigator: Michael T. Witkowski, Code 931

E-mail:

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alberts_matthew@hotmail.com

Current Address:

522 Locust Apt 6
Kalamazoo, MI 49008

Permanent Address:

11135 Alexandria Lane
Davison, MI 48423

Academic and Research Experience

- *Western Michigan University - Kalamazoo, MI, Aug 1999 - Present*
- *Western Michigan University, Student Researcher - Kalamazoo, MI, Jan 2003 - Apr 2004*
Constructed a 48 Beowulf cluster, which was used to process custom GPS correction algorithms based on data provided by a standard Garmin GPS receiver.
- *Western Michigan University, Student Researcher - Kalamazoo, MI, Aug 2003 - Apr 2004*
Designed software implementation of a GPS receiver in VHDL to allow custom configurable GPS receiver units to be quickly made out of CPLD's.
- *NASA, Student Researcher - Greenbelt, MD, Aug 2003 - Dec 2003*
Developed simulations modeling the hysteresis motors used as navigational gyroscopes in the Hubble Space Telescope.
- *NAVSEA, Student Researcher - Corona, CA, Apr 2002 - Aug 2002*
Develop/redevelop a graphics algorithm that could process polygonal defined images and output them into several non-vector graphical representations. Develop a new cross-platform graphical interface to a warfare assessment module used for viewing data collected by naval mock engagements for later graphical represents (as output by task 1). Develop code that would allow cross-platform printing based on the API calls of both LINUX and windows. The code would take the polygonal output of the GUI and translate it in the native language of the specified printer (using task 1).

- ***Western Michigan University, Student Researcher - Kalamazoo, MI, 2001***

Conduct six studies into the ecological organization of species found in tropical regions. Three of these studies were conducted on land locations. The other three were conducted from a remote island location near Belize.

Memberships and Activities

- Lee Honors College
- Phi Kappa Phi
- Tau Beta Pi
- Golden key International Honor Society

Skills and Certifications

- Operating Systems: DOS, Microsoft Windows 3.1, 9X, NT, XP, Unix, Mac OS 8/9, Linux, Novell, BSD, Cygwin
- Programming Languages/APIs: Windows Script Host, Windows API, JAVA SDK, C/C++, PROLOG, Assemble 80296, Perl Script, Visual Basic, MathCad Bison, TCL/TK, Assemble x86, Java Script, Visual C++, P-Spice, Yapp, HTML, Basic Stamp II, VB Script, Gnome API, MatLab, Jacc, Java, Xilinx Foundation Software, Shell Script, GTK API, Mentor, Yacc, Perl, ABEL, Q-Basic, Glade, Maple, Lex, LISP
- Hardware: Intel 80296 Microprocessor, Standard TTL Logic Xilinx 10895PC84 PLD, Analog to Digital & Digital to Analog Logic

Honors and Awards

- Eagle Scout
- MSGC Undergraduate Research Award: GPS Correction Center
- USRP Goddard Space Flight Center
- Research Grant: Beowulf Clustering, Lee Honors College
- Research Grant: GPS Correction Center, Lee Honors College
- Electrical and Computer Engineering: Outstanding Student Award
- ECE Department Presidential Scholar Award
- Physics Department Award of Excellence
- Mathematics Department Award: Honorable Mention
- Dean's List

Hobbies and Interests

I'm a very boring individual.

Personal Statement

"Hug!.....Curse!....Lobster!"



Mark R. Arend

University of Minnesota - Twin Cities

Minneapolis, Minnesota

Aerospace Engineering and Mechanics

Bachelor of Aerospace Engineering and Mechanics,

May 2004



NASA Academy Research Project:

Lunar Navigation Architecture for the 2008 Lunar
Reconnaissance Orbiter

Principal Investigator: Mark Beckman, Code 595

E-mail:

aren0080@umn.edu

Current Address:

1616 Clark Court

South Milwaukee, WI 53172

Permanent Address:

1616 Clark Court

South Milwaukee, WI 53172

Academic and Research Experience

- *University of Minnesota - Twin Cities - Minneapolis, MN, Sep 2000 - May 2004*
- *NASA Reduced Gravity Student Flight Opportunities Program, Mar 2004*

Developed, designed, proposed, and built a material properties experiment for use aboard NASA's KC-135A training aircraft with four fellow undergraduate students. Successfully performed experiment in zero gravity environment.

- *University of Minnesota - Twin Cities, Department of Aerospace Engineering, Senior Design Course Project: Low Earth Orbit Crew Rescue Vehicle - Minneapolis, MN, Project Manager, Fall 2003; Spring 2004*

Led a team of ten fellow Aerospace Engineering Seniors in the development and design of a space vehicle expected to rescue flight crew from a distressed shuttle orbiter or the International Space Station. Facilitated design team meetings and progress evaluations throughout the project. Organized and led a presentation for the critical design review at the end of the design phase. Helped construct full-scale mockup of the rescue vehicle. Project Manager Fall 2003.

Work Experience

- *University of Minnesota - Twin Cities Department of Aerospace Engineering, Undergraduate Teaching Assistant, - Minneapolis, MN, Sep 2003 - May 2004*

Graded homework, quizzes, and tests for the Spaceflight Dynamics course during the Fall semester and for the Flight Dynamics and Control course during the Spring semester.

- ***University of Minnesota - Twin Cities Department of Mechanical Engineering, Machine Shop Utility Worker, Sep 2001 - May 2004***
Performed machining and metal casting of several components used in an undergraduate design and manufacturing course.
- ***Milwaukee County Council Boy Scouts of America - LeFeber Northwoods Camps, Program Instructor, Director, Camp Commissioner, Summers 1998 to 2003***
Developed and implemented skill teaching sessions. Participated in staff recruiting, interviewing, and training.

Memberships and Activities

- Tau Beta Pi National Engineering Honor Society, Corporate Relations Officer, May 2003 - May 2004
- AIAA, Member, Jan 2004 - Present
- University of Minnesota Department of Aerospace Engineering Undergraduate Student Advisory Board, Chairman, Spring 2003 - Present

Skills and Certifications

- Computer skills: Internet Explorer, Netscape, Word, Excel, Powerpoint, Matlab, Simulink, Mathematica, EES, Solidworks
- Proficiency in building system models for simulations
- Proficiency in computer-aided technical drawing

Honors and Awards

- Dean's List, Fall 2000, Spring 2001, Spring 2002, Fall 2002, Fall 2003, Spring 2003
- Richard and Shirley DeLeo Scholarship, Spring 2003

Hobbies and Interests

Camping, biking, racquetball, rock climbing, current affairs

Personal Statement

"I am very excited to be a member of the NASA Academy. There are many thrilling opportunities and fields of study at NASA, and I look forward to taking the first steps of my aerospace career working on spacecraft dynamics. There is nothing more awesome than understanding how the world's most complicated machines perform on the most fundamental principles of physics."



Laura M. Barge

Villanova University

Villanova, Pennsylvania
Astronomy and Astrophysics
Bachelors of Science, May 2004



NASA Academy Research Project:

Carbon Isotope Ratios on Mars
Principal Investigator: Paul Mahaffy, Code 915

E-mail:

lauramarie.barge@villanova.edu

Current Address:

205 North Ithan Ave
Bryn Mawr, PA 19010

Permanent Address:

498 Florence Drive
Lafayette, CA 94549

Academic and Research Experience

- *Villanova University - Villanova, PA, Aug 2000 - May 2004*
- *Villanova University, Research Assistant - Villanova, PA, Summer 2002, Summer 2003*
Projects: Eclipsing binaries in the Magellanic Clouds; the eccentric eclipsing binary DI Herculis; the pulsating variable R Leo

Publications:

- *Revisiting the Anomalous Apsidal Motion of the Eccentric Eclipsing Binary DI Herculis*
F. P. Maloney, E. F. Guinan, L. M. Barge (2004).
- *The LMC Eclipsing Binary HV2241: Fundamental Properties and Evolution*
L. M. Barge, I. Ribas, F. P. Maloney, L. E. DeWarf, E. L. Fitzpatrick, E. F. Guinan (2003).
- *Determination of Age, Rotation, and Magnetic Activity Relations for dG, dK, and dM Stars: A Search for Candidates that may be Suitable for Life*
J. W. Drescher, E. F. Guinan, L. E. DeWarf, G. P. McCook, R. T. Hamilton, I. Ribas, L. M. Barge, J. K. Miller, K. Kolb (2003).

Work Experience

- *Villanova University Astronomy Department, Teacher Assistant - Villanova, PA, Aug 2002 - Present*
- *Villanova University Theatre Department, Undergraduate Set Construction Assistant - Villanova, PA, Nov 2000 - Present*
- *Villanova University Astronomy Department, Observatory Assistant - Villanova, PA, Aug 2000 - May 2001*
- *Villanova University Astronomy Department, Office Assistant - Villanova, PA, Oct 2000 - May 2001*

Memberships and Activities

- American Astronomical Society, Member, Mar 2003 - Present
- Society of Physics Students (SPS), Member, Mar 2003 - Present
- Villanova Student Theater, Director of Operations, 2003 - 2004
- Villanova Flag Team, 2001 - 2004; Webmaster, 2003 - 2004
- Villanova Intramural Sports, Soccer and Softball, 2001-2004
- Villanova Astronomical Society, Member, 2000 - 2004
- Philadelphia Area Astronomers' Meeting, Presenter, Nov 2003
- St. Perpetua Elementary School, Volunteer Speaker, Oct 2002 - 2003
- Villanova Student Musical Theater, VP of Production, 2002 - 2003

Skills and Certifications

- Computer Skills: C, C++, IDL, Windows, UNIX, Linux, IRAF, SYNSPEC, FITSPEC, Binary Maker, SigmaPlot, Microsoft Office
- Observational Skills: Photometry, Spectroscopy, CCD Camera

Honors and Awards

- College Merit Fellowship, U. of Southern California, 2004 - 2006
- Keck Fellowship, University of Southern California, 2004 - 2005
- Blue White Scholarship, 2003 - 2004
- Dean's List, 2003 - 2004
- Sigma Pi Sigma Physics Honor Society, Mar 2003 - Present
- Villanova University Honors Program, Aug 2001 - Present
- National Merit Scholarship, 2000 - 2004
- Delaware Space Grant Consortium Research Scholar, Summer 2002

Hobbies and Interests

Reading, astrobiology, spending time with friends, soccer, drawing and painting, playing piano, theatrical design and performance, digital art, baton and flag twirling.

Personal Statement

"I am the oldest of four, grew up near Los Angeles, and have been interested in space since I was very young. My current fascination is astrobiology, the study of life in the universe, and in graduate school I want to learn more about the climate histories of the terrestrial planets and the evolution of life on Earth. Next year I will pursue a Ph.D. in Geological Sciences at the University of Southern California. My ultimate goal has always been to work for NASA as a missions specialist, and I am thrilled to be a part of the Academy this summer."



Eastern Kentucky University

Richmond, Kentucky
Environmental Health Science and
Aviation Human Factors
Bachelor of Science, December 2004



NASA Academy Research Project:

The Effects of Health Sciences Using Satellite
Imaging
Principal Investigator: Nancy Maynard, Code 900

E-mail:

AMB_oo7@yahoo.com

Present Address:

104 Hager Dr.
Apt N
Richmond, KY 40475

Permanent Address:

104 Hager Dr.
Apt N
Richmond, KY 40475

Academic and Research Experience

- *Eastern Kentucky University - Richmond, KY, 2000 - Present*
- *Associate of Science, Associate of Arts, Hopkinsville Community College - Hopkinsville, KY, Dec 2003*
- *Eastern Kentucky University, Researcher, co-founders, fliers, and outreach coordinator - Richmond, KY, 2001 - Present*
- *Eastern Kentucky University, Department of Chemistry, NASA X-Link Project, Lab Coordinator and Research Assistant - Richmond, KY, Aug 2001 - Present*
- *Harvard Forest, Harvard University (REU program), Research Assistant - Petersham, MA, May 2002 - Aug 2002*
- *Research for Undergraduate Experience (REU program) University of Idaho, Research Assistant - Moscow, ID, Jun 2001 - Aug 2001*

Work Experience

- *Eastern Kentucky University, Industrial Hygiene Assistant and Environmental Health Laboratory Coordinator - Richmond, KY, 2003 - 2004*
- *Eastern Kentucky University, Teaching Assistant for Forensics and Chemistry Laboratories - Richmond, KY*
- *Harvard University, Photographer - Petersham, MA*
- *Brown Greenhouse, Owner/Operator - Herndon, KY*

Memberships and Activities

- Student Government Representative
- Phi Theta Kappa Honor Society

- Epsilon Nu Eta Honor Society, President
- Alpha Eta Rho Coed Fraternity - Secretary (three years), President
- Chemistry Club - Vice President, Treasurer
- Environmental Health Science Club, Committee Chair
- Biology Club
- Aviation/ Flight Training
- Girl Scout Trainer Aerospace Badge
- Children's Reading Hour (*There's No Place Like Space* by Dr. Seuss)
- Rugby Women's Inter-Collegic Team, Hooker, Lock, and Flanker
- Fencing Team, President, Vice President, Secretary

Skills and Certifications

- Hypo Baric Chamber Certified
- Computer Skills: All Microsoft functions, Word, Works, Adobe 7.0 Premiere and Photoshop, Mathlab, Un-Scan-It Software, Excel, CAD, Mathematica, Computer Aided Drafting, Epi-Info, Macintosh Systems,
- Chemical Analysis Equipment: Eletroporisis gels, UV Vis, HPLC, CE, Spectroscopy, Microscopy, NMR, Gas Chromatograph
- CPR/ First Aid Certification
- Red Cross Certified Swimmer
- OSHA Trained - 40 hour HASWAP onsite waste worker, 30 hour
- Mold Technician Certification
- HACCP trained

Honors and Awards

- Presidential Scholarship, 2004
- McNair Scholar, 2004
- Who's Who Among American College Students, 2003 - 2004
- Dean's list Eastern Kentucky University, 2001 - 2003
- Louisville Fencing Challenge, Third Place Women's Foil, May 2002
- Angee's Scholarship, 2000-2001
- Dean's list Hopkinsville Community College, 1998 - 2000
- FFA Floriculture Entrepreneur of the Year 1998, 1999

Hobbies and Interests

Fencing, painting, sculpture, photography, hiking, camping, old films, gardening, kayaking/rafting, skiing, swimming

Personal Statement

"As long as I can remember, I have tried to reach the stars. I can think back to my childhood and sitting on my childhood roof watching the skies. I have always looked forward to the idea of working with NASA someday while growing up in rural Kentucky. I am very excited about working with all of the people at the academy and think it will be a great summer."



Texas A & M University

Kingsville, Texas
Geology
Bachelors of Science, May 2005



NASA Academy Research Project:

Studies of the Surface of Mars
Principal Investigator: Herb Frey, Code 921

E-mail:

laredo2mars@hotmail.com

Current Address:

700 University Blvd
Lewis Hall Rm# 169
Kingsville, TX 78363

Permanent Address:

702 West Amiens Place
Laredo, TX 78045

Academic and Research Experience

- *Texas A & M University - Kingsville, TX, Aug 2003 - May 2005*
- *Associate of Science, Geology, Laredo Community College - Laredo, TX, Aug 2003*
- *Associate of Science, Criminal Justice, Laredo Community College - Laredo, TX, Apr 2002*

Work Experience

- *Texas A & M University, Teaching Assistant - Kingsville, Texas, Spring 2004*
Teaching Historical Geology and Earth, Nature, and the Universe labs.
- *Volunteer Community Project, Project Coordinator for a Local Community Team of Students (5th - 8th Graders) - Laredo, TX, Jan 1999 - Jun 2000*
This was for the NASA Mars Millennium Project. I was responsible for these children and taking them from and to the public library. Assisted in mentoring and assigning them different aspects of research until the project completion and submission to NASA in June 2000.
- *Cabello Paralegal Service, Independent Paralegal, Owner and Operator - Laredo, TX, 1990 - 2000*
- *Hidalgo County Sheriff's Department: Investigative Record Division, Law Enforcement - Edinburg, TX, 1981 - 1994*

Memberships and Activities

- Society of Hispanic Professional Engineers, President, Mar 2003; Member, Apr 2002 - Present
- Air & Space Smithsonian, Member, Mar 2003
- National Space Society, Member, Jan 2003

- Society of Exploration Geophysicists, Member, Jan 2003
- National Society of Physics Students, Member, Aug 2003
- Society of Physics Students, Treasurer, Fall 2003 - Present
- Astronomy Club, Member, Fall 2003
- The Planetary Society, Member, Aug 2002

Skills and Certifications

- Computer Skills: DOS, Microsoft Word, Excel
- State of Texas Correctional Officers Certification, Jan 1980
- T.E.C.L.O.E.S.E Jailers Certification, May 1982
- Laredo State University Paralegal Certificate, Aug 1990

Honors and Awards

- Alpha Chi, Spring 2004 - Present
- The National Scholars Honor Society, Spring 2001 - Present
- Phi Theta Kappa, Spring 2001 - Present
- Dean's List, Fall 2000, Spring 2001, Fall 2003
- National Dean's List, Jun 2000, Jun 2001, Jun 2003
- Scholastic Achievement, Fall 2001, Spring 2003
- LCC Magma Cum Laude Graduate, Aug 2002, Aug 2003
- LCC Student Representative Award, Oct 2002
- LCC Leadership Award, Apr 2002
- Laredo Community College Instructor Hiring Committee, Dec 2002
- NASA Community College Aerospace Scholar, Apr 2002
- National Who's Who, 2000 - 2001

Hobbies and Interests

Painting, sketching, collecting books, exploring, and research writing.

Personal Statement

"Geology, the study of rocks, so simple but complex in all the possibilities that you can accomplish with a simple term like geology. At the age of 12 I knew I wanted to be an astronaut, but being from a Hispanic family with barely a high school diploma, how and who could help me get there? My mother still thinks I'm a little crazy to dream of NASA, to dream of going to Mars, of learning about ROCKS? This field is an amazing adventure if you don't mind being only a glimmer in the history of the Earth. We have so much to learn, and so much to contribute in such little time. I am planning to continue my education through to a PhD. in Planetary Geosciences. I hope to work for NASA as a scientist, maybe astronaut, but definitely throughout my career I plan to continue dedicating time to attend schools, whether formally or voluntarily, but I would like to mentor children, especially minority children that are asking the same questions."



Massachusetts Institute of Technology

Cambridge, Massachusetts
Aeronautical/Astronautical Engineering and
Physics
Bachelor of Science, June 2005



NASA Academy Research Project:

Optimal Trajectories for Satellite Formations
Principal Investigator: Steven Hughes, Code 591

E-mail:

finale@mit.edu

Current Address:

3 Ames Street Box 315
Cambridge, MA 02142

Permanent Address:

11317 Markham Court
Richmond, VA 23233

Academic and Research Experience

- *Massachusetts Institute of Technology (MIT) - Cambridge, MA, Sep 2001 - Jun 2005*
- *MIT Model-based Embedded and Robotic Systems Group, Student Researcher - Cambridge, MA, Fall 2003 - Present*
Tested fault detection and correction software for autonomous rovers and documented how to use various classes and libraries.
- *Sentor Technologies, Lab Assistant - Richmond, VA, Summer 2003*
Built and programmed control circuitry for a portable gamma-ray detector. Constructed and tested uptake wheel for electrospray studies.
- *MIT Undergraduate Research Opportunities Program - Independent Project - Cambridge, MA, 2002 - 2003*
Designed and built a working prototype and user learning software for an alternative key-input device for people with wrist injuries.
- *MIT Space Systems Lab, Lab Assistant - Cambridge, MA, Jan 2002*
Built feedback circuitry for testing a flywheel design.
- *Draper Lab, Student Researcher - Cambridge, MA, Summer 2001*
Integrated code and tested simulations for minimum-time spacecraft reorientation maneuvers.

Work Experience

- *MIT Experimental Studies Group Teaching Assistant - Cambridge, MA, Spring 2002 - Present*
Held tutorials and graded for courses in electricity and magnetism, multivariable calculus, and differential equations.
- *Ben Franklin's Frames, Salesperson - Richmond, VA, Summer 2001*
Helped customers and frames for their artwork.

Memberships and Activities

- Sigma Gamma Tau Aerospace Engineering Honor Society
- Club Sports Council, Officer, Fall 2002 - Present
- MIT Tae Kwon Do Club, President, Spring 2002 - Present
- MIT Educational Studies Program, Fall 2001 - Present
- Science Museum of Virginia, Intern/Volunteer, Summer 2003

Skills and Certifications

- Computer Skills: ModelSim, MaxPlusII, Xilinx Tools, Matlab/Simulink, Mathematica, Pagemaker/Photoshop, LaTeX, Emacs; Verilog, Ada95, Java, PIC C, IC, pBASIC, Scheme
- Microcontrollers: PICs, pBASIC stamps, handyboards
- Electrical: Basic tools - logic analyzer, oscilloscope, function generator, soldering familiarity with digital and analog circuitry
- Mechanical: Basic hand tools and machine tools (mill, lathe)
- Artistic media: colored pencil, acrylic paint, and glass

Honors and Awards

- MIT Athletics Gold Award for Service, 2003
- Outstanding (highest international honor) in Math Contest in Modeling, 2000 and 2001. Modeled air traffic control, 2000 and emergency highway traffic control, 2001; articles published in the Journal of Undergraduate Mathematics and its Applications
- Global Champions, Odyssey of the Mind, 2001

Hobbies and Interests

Sky-watching, taking apart electronics and building gadgets, helping people learn, helping robots learn, exploring Boston, exploring Linux, reading and writing novels, drawing and painting.

Personal Statement

"Highly elliptical orbits. Growing up in a family of accountants - but somehow always finding star charts more interesting than stock indices - I slowly discovered that I did not care about math for the sake of math, or even transistors for the sake of transistors. Legos were exciting if used to build starships; CSPAN if Dan Goldin was speaking. After a brief science fiction fly-by, I realized that the focus of my roaming interests was space.

I feel it is part of the human psyche to explore and understand our place in the universe. To create spacecraft, individually designed to withstand the most extreme environments, is not only a paragon of human achievement, but it is also a way to peer at the worlds beyond the ceiling of blue sky and pave the way for future human investigation. I see my place as one of a team of engineers, making continued space exploration possible."



Stanford University

Stanford, California
Aeronautical and Astronautical Engineering
Masters of Science, March 2005



NASA Academy Research Project:

SimSat Development
Principal Investigator: Patrick Kilroy, Code 568

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Stanford, CA 94305

Permanent Address:

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Academic and Research Experience

- *Stanford University - Stanford, CA, Sep 2003 - Mar 2005*
- *Bachelors of Science in Aeronautical and Astronautical Engineering, University of Washington - Seattle, WA, Jun 2003*
- *University of Washington, Undergraduate Research Assistant - Seattle, WA, Jan 2003 - Jun 2003*
Designed and implemented a major structural modification of the primary water tunnel at the UW Fluid Dynamics Laboratory. Also designed, sized and acquired material for a three axis platform for the water tunnel.
- *NASA Ames Research Center, Undergraduate Summer Research Program (USRP) - Moffett Field, CA, Jun 2002 - Sep 2003*
Involved with High Altitude Flight Test of Mars Airplane test vehicle: simulated release of vehicle at altitude, analyzed, tested, designed and supervised construction of structural members. Constructed and tested parts of the flight data acquisition system. Provided flight test support.
- *Further Academic and Research Experience:*
Project Management, Team Leadership, Control Systems, Uninhabited Aerial Vehicle (UAV) Development, GPS Driver Coding, Wind Tunnel Testing, RC Aircraft

Work Experience

- *University of Washington, Engineering 100 Teaching Assistant - Seattle, WA, Mar 2002 - Mar 2003*
Lead a hands-on, experimental introduction to engineering class for freshman students who were interested in engineering. Taught basic engineering principles and inspired an interest in engineering.

- ***University of Washington New Student Programs, Orientation Leader - Seattle, WA, Jun 2001 - Sep 2001***
Developed and managed a dynamic, interactive education program as part of the orientation team that welcomed more than 8,000 incoming students to the UW over a 12 week period. Academically advised all students interested in science and engineering. Answered direct questions from parents and others with honesty and competence.
- ***University of Washington, Engineering Fundamentals Tutor - Seattle, WA, Jan 2002 - Apr 2003***

Memberships and Activities

- Sigma Gamma Tau - The Aerospace Honor Society, May 2002 - Present
- American Institute of Aeronautics and Astronautics (AIAA), Member, Nov 2001 - Present; UW Chapter Treasurer, Apr 2002 - Jun 2003

Skills and Certifications

- Computer Skills: C, Matlab, MS Word, Excel, Powerpoint, Simulink, Mathematica, Solidworks, ANSYS, Autolev dynamic modeling software, Windows, MAC/OS and Unix operating systems

Honors and Awards

- University of Washington, Graduated Magna Cum Laude with College Honors in Aeronautical and Astronautical Engineering, Jun 2003
- University of Washington Rockwell Senior Design Award in Aerospace Engineering, May 2003
- Grossman Memorial Scholarship for Academic Excellence, May 2002
- University of Washington Dean's List, all eligible quarters

Hobbies and Interests

Aerospace, history of science, science and historical fiction, travel, exotic food, field hockey, soccer, rugby, beach volleyball

Personal Statement

"What an opportunity it is to participate in the 2004 NASA Academy. And what an adventure it is to be exposed to the diversity and strengths of a community that is exploring the worlds beyond and around us. Aerospace engineering is so fundamentally appealing because it is the creation and implementation of systems. These systems, which are often large and complex, draw from all aspects of science, engineering and society. All of these must come together to form an effective, efficient and economical system, from computer controls, to advanced designs, to innovative ideas. Managing these trades is a passion of mine and the missions undertaken by NASA provide both unparalleled inspiration and exciting challenges."



Supaero University (ENSAE)

Toulouse, Haute Garonne, France
Aerospace Engineering
Master of Science, October 2006



NASA Academy Research Project:

Sub-nanometer Precision Metrology for Static
Wavefront Correction

Principal Investigators: Richard Lyon, Code 935,
Mark Clampin, Code 681, Peter Maymon, Code 551

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10 Edouard Belin Avenue
Toulouse, Haute Garonne 31 400

Permanent Address:

Bierenberg 16
Rhode Saint Genèse,
Belgium 1640

Academic and Research Experience

- *Supaero University (ENSAE) - Toulouse, Haute Garonne, France, Sep 2002 - Jul 2005*
- *Bachelor of Science in Aerospace and Physics, Supaero University (ENSAE) - Toulouse, Haute Garonne, France, Jul 2004*

Work Experience

- *Royal Observatory of Belgium - Brussels, Belgium, Jul - Aug 2003*
During my summer training period, I spent two months developing a numerical simulation of the Martian climate and atmosphere (using FORTRAN language).

Memberships and Activities

- Triathlon and Raid Team, 2002 - Present
- Shell Eco Marathon (competition aiming at driving as many kilometers as possible with the smallest quantity of petrol), Pilote, Present

Skills and Certifications

- Computer Skills: FORTRAN, C, Java, MATLAB, CAML, Windows, Linux, Unix environments
- Language Skills: French, English, basic Russian
- Brown Belt in Karate
- 10 km swimming certificate

Honors and Awards

- French equivalent of the A level, called the "baccalaureat" in France

Hobbies and Interests

I have a passion for sport, especially for triathlon and raid. I practice seven hours per week. I also have a passion for theoretical physics and space. I read a lot of magazines and books. During the weekend, I enjoy roller-skating with friends.

Personal Statement

"I am a twenty one year old student in Supaero (Toulouse, France). I have always been fascinated by Space and Universe. Thus I entered this engineering school with a view to fulfilling a professional project that dates back to my early teenage years, which is to be part of a research team in Space Physics. I am fascinated by Space and Universe, as well as by all the mysterious questions they raise. The understanding of our universe goes beyond what Man may ever imagine.

Furthermore, I have a strong willpower to see to the end what I take on, and this professional project is part of the aims I am set on achieving.

More generally, I am a passionate and dynamic person. As a result, I often show a strong tenacity or perseverance, and invest a lot of energy in what I set out. Sometimes this doggedness might be excessive because I definitely want to reach a utopian perfection. But this trait of character proved to be an asset in daily life.

Finally, I have a passion for sport, and especially triathlon and raid. I think these sports enable people to go beyond their limits, and to put their determination to the test."



University of Oklahoma

Norman, Oklahoma

Geology

Bachelors of Science, May 2005



NASA Academy Research Project:

Project on the Vapor Pressure of Palladium at
Temperatures up to 1975K

Principal Investigator: Joseph Nuth, Code 691

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kyanitekat@ou.edu

Current Address:

520 ½ East Boyd Street
Norman, OK 73071

Permanent Address:

2225 West Fulton Street
Broken Arrow, OK 74012

Academic and Research Experience

- *University of Oklahoma - Norman, OK, Aug 2000 - Present*
- *Oklahoma Space Grant Consortium - University of Oklahoma, Intern - Norman, OK, Fall 2003 - Present*
"Paleomagnetism of the Weaubleau-Osceola Impact Structure, SW Missouri" with Shannon Dulin and Dr. Doug Elmore. Poster presentation at the 2004 AAPG/SEG Student Expo and at the 2004 Joint Assembly Meeting of the American Geophysical Union.
- *Johnson Space Center Lunar and Planetary Institute Summer Intern Program, Intern - Houston, TX, Summer 2003*
"Petrology of New Stannern-trend Eucrites and Eucrite Genesis" with Dr. David Mittlefehldt. Oral presentation at the 35th Lunar and Planetary Science Conference and at the 2004 OU Honors College Undergraduate Research Day. Poster presentation at the 2004 Council on Undergraduate Research Posters on Capitol Hill poster session.
- *Goddard Space Flight Center Undergraduate Student Research Program - Greenbelt, MD, Fall 2002*
"Synthesis of Meteoritic Organic Material Applying a New Nebular Model" with Dr. Joseph Nuth, III. Poster presentation at the 34th Lunar and Planetary Science Conference and at the 2003 Council on Undergraduate Research Posters on Capitol Hill Poster Session. Published an article in *The Earth Scientist Magazine*, 2003.

Work Experience

- *Kerr-McGee Oil and Gas Corporation, Intern - Houston, TX, Summer 2002*
- *Kaiser-Francis Oil Company, Intern - Tulsa, OK, Summer 2001*
- *Private Oboe Lesson Instructor, Fall 1999 - Spring 2000*

Memberships and Activities

- Sigma Gamma Epsilon - Earth Science Honor Society, Member, Jan 2003 - Present; Vice-president 2003-2004; President 2004-2005
- Honors Student Association - Treasurer, 2001-2002; Student Director, 2002-2003; Vice-President, 2003-2004; President, 2004-2005
- LPI Summer Intern Alumni Board, Chair, 2004
- Pe-et Top 10 Seniors Honor Society, 2004-2005
- Golden Key Honor Society, November 2003 - Present
- Phi Kappa Phi Society, May 2003 - Present
- Gamma Beta Phi Society, August 2002 - Present
- National Society of Collegiate Scholars, May 2001 - Present
- American Geophysical Union, Member
- Madison Elementary School, Tutor
- Space Education Outreach, Oklahoma Public Schools

Skills and Certifications

- Computer Skills: ArcView GIS, MathCAD, FORTRAN 90/95.
- Laboratory Skills: petrographic microscope, scanning electron microscope, electron microprobe, FTIR spectrometer, magnetometer

Honors and Awards

- Goldwater Scholar, 2004
- University of Oklahoma Big Woman on Campus, 2004
- Universities Space Research Association Education Scholarship, 2004
- Oklahoma Space Grant Consortium, NASA Fellowship, 2003-Present
- OU Honors College Distinction in Undergraduate Research, 2004
- Kerr-McGee Scholar, 2001-2002
- Scholarships: Houston Oil and Mineral Society, 2004; Energy Cup, 2003; Harriet Harvey Memorial, 2002; Harry J. Brown, 2001-2002
- National Dean's List, 2001

Hobbies and Interests

Playing the oboe, English Horn, piano, and percussion; scientific and fictional reading; freelance abstract art and writing self-help books; weight lifting, hiking, Pilates, yoga, spelunking and sport shooting; vegan foods.

Personal Statement

"I wholeheartedly want to spend my life as a planetary scientist for NASA to learn as much as I can about the planetary bodies in our solar system and hopefully use that geologic and chemical knowledge to further humanity's understanding of the universe. Aside from becoming a scientist, my ultimate goal is to become an astronaut. One of the best ways to understand the vast expanse of space is to witness it with human eyes and touch it with human hands. I cannot think of any place I would rather be than analyzing rocks on Mars!"



University of Missouri - Rolla

Rolla, Missouri
Aerospace Engineering
Bachelors of Science, December 2004



NASA Academy Research Project:

Conformal Gripper Project
Principal Investigator: John Vranish, Code 544

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Permanent Address:

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Vichy, MO 65580

Academic and Research Experience

- ***University of Missouri - Rolla - Rolla, MO, Jun 2001 - Dec 2004***
- ***Space Systems Engineering Laboratory, Power Subsystem Lead - Rolla, MO, Jun 2002 - Present:***
Soldered prototype solar cells into arrays. Constructed power prototype experiment. Negotiated with Eagle Picher to obtain prototype and flight batteries. Calculated power requirements for the solar arrays and battery packs, and created power duty cycles.
- ***Space Systems Engineering Laboratory, Power Subsystem Member - Rolla, MO, Aug 2001 to May 2002:***
Performed research concerning batteries. Determined type of battery to be used aboard microsatellites. Designed power experiment.
- ***NASA's Reduced Gravity Student Flight Opportunities Program (RGSFOP), "Miners in Space" Team, Welding, Secretary, Treasurer - Rolla, MO, Sep 2002 - Oct 2003:***
Designed and constructed a GMA welding experiment to weld aluminum in microgravity conditions aboard NASA's KC-135. Analyzed test results and comparing welds performed in 1-g to welds performed in 0-g and 2-g conditions. Managed team budget and expenses.

Work Experience

- ***Space Systems Engineering Laboratory, Head of Cleaning/Repair Team - Rolla, Mo, Jun 2001 - Aug 2001***
Aided in the set-up of the Space Systems Engineering laboratory. Repaired donated furniture, such as desks, desk chairs, and tables. Cleaned the laboratory facilities.

Publications

- *"Li-Ion Batteries Aboard Microsatellites."*
Missouri Space Grant Consortium: Twelfth Annual Meeting. 2003.
- *"Hierophany of Celestial Beings."*
2003 Writing Center Writing Contest: Prizewinning Essays and Stories. 2003.

Memberships and Activities

- Tau Beta Pi Honor Society, Member, Nov 2001 - Present
- Chamber Ensemble, Flutist/Piccoloist, Aug 2001 - Present
- Christian Campus Fellowship - Aug 2001 - Present
- Phi Eta Sigma Honor Society, Member, May 2001 - Present
- Moon Madness, Presenter, Jan 2004
- American Institute of Aeronautics and Astronautics, Member, Sep 2001 - May 2003
- Tau Beta Pi, Cataloguer/Bylaws Office - Aug 2002 - Dec 2002
- Ozark Actor's Theater, Flutist, Jun 2002 - Aug 2002

Skills and Certifications

- Computer Skills: FORTRAN, C, Windows 95, Windows 98, Windows 2000, UNIX, Pro-Engineer, AutoCAD 2000, Mathematica, Mathcad, Netscape, Microsoft Office
- SCUBA

Honors and Awards

- NASA Space Grant - 2002, 2003
- Dean's List, 2000, 2001, 2003
- Bright Flight, 2001, 2002, 2003
- Curator's Award, 2000-2001
- Writing Center Competition: Analytical Essay, 2nd Place, 2003

Hobbies and Interests

Stargazing and locating constellations; playing flute, piccolo, and piano; working puzzles; collecting magnets; playing racquetball.

Personal Statement

"Due to the support of my parents, I have very high ambitions in life. In junior high, I decided that I would be the first woman to step on the moon and the first human being on Mars. One summer I attended the Newton Academy, where a NASA engineer spoke of her work on a Mars mission. Listening to her, I realized that designing and constructing satellites, rovers, and shuttles was exactly what I wanted as a career. Upon graduation I decided to pursue engineering. Recently married, I am looking forward to obtaining my master's degree, possibly my doctoral degree, and someday working for NASA."



Massachusetts Institute of Technology

Cambridge, Massachusetts
Aeronautical/Astronautical Engineering and
Physics
Bachelor of Science, June 2005



NASA Academy Research Project:

High Accuracy Encoder Based Sun Sensor
Principal Investigator: Doug Leviton, Code 551

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#551C
Cambridge, MA 02139

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Hollis, NH 03049

Academic and Research Experience

- *Massachusetts Institute of Technology - Cambridge, MA, Sep 2001 - Jun 2005*
- *MIT+NASA Joint Operational Internship Experience at KSC, Intern - Cape Canaveral, FL, Jan 2004*
Studied shuttle processing and operations - TPS, SSMEs, structures, ground systems, quality, logistics; focus on connections between design decisions and unforeseen operational difficulties.
- *Massachusetts Institute of Technology Space Systems Laboratory, SPHERES Project Research Assistant - Cambridge, MA, Feb - Sep 2002*
Fabricate and modify parts, test CO2 thrusters used to test spheres; build and calibrate lab testbed, design and install major modifications to lab testbed; participate in weekly team meetings.

Work Experience

- *Orbital Sciences Corporation, Engineering Intern - Dulles, VA, Jun - Aug 2003*
Participated in architecture studies, technology research, and systems engineering for experimental aerospace vehicles and Orbital Space Plane.

Memberships and Activities

- NASA, US Space Camp, Space Academy, Advanced Space Academy, seven tours, 1992 - 1998
- MADD National Youth Summit, New Hampshire Delegate, speaker at National Press Club, Presenter for Channel One, Oct 2000

- WSPS Weekly Radio Show (jazz and rock), 2000

Skills and Certifications

- Computer Skills: Matlab, C++, Maple, SolidWorks, CADKEY, and experienced in designing parts
- FAA Pilot License with Multi Engine Instrument Rating
- Proficient with CNC mill, lathe, and OMAX waterjet

Honors and Awards

- Scholarships: Robert C. Byrd, 2001; William Loeb, 2001; Prudential Spirit of Community, 2001; Target All-Around, 2001; Toyota Community, 2001
- MIT Unified Engineering systems design competition (team of 5), Winner, 2003
- AP Scholar, Highest Number of Highest AP Scores in New Hampshire, 2001
- Congressional Youth Leadership Conference, National Scholar, 2000
- Magna Cum Laude Diploma, St. Paul's School
- US Advanced Space Academy "The Right Stuff" Medal, 1998
- New Hampshire State Award in Mathematics, 1995
- Johns Hopkins National Talent Search C.T. Crocker Award, 1997
- Black Belt, Nidan 2nd Degree, Karate, 1997
- MIT Lecture Series Committee, Lecture Director, 2002
- Chapel of Saint Peter and Saint Paul, Acolyte, 1997 - 2001; Head Acolyte, 2000 - 2001

Hobbies and Interests

Music: Piano, Guitar, Voice, Improvisation

Technical theater: lighting and sound, photography, Western horseback riding

Personal Statement

"My home is a beautiful small town in New Hampshire. We've lived in the same house there since the day I was born, a base from which I've traveled three continents. With the good fortune to prepare at extraordinary schools, I am presently a junior at MIT studying for two undergraduate degrees: one in Aeronautics and Astronautics, and a second in Physics, with a minor in Music. My life's passion is human spaceflight. A seven-year veteran of Space Camp, I began formal flight training at age 15 and now hold multiengine instrument ratings on my pilot's license. Other long-term interests have been music and karate. Although I play saxophone, guitar, and piano, I've been active the past three years performing vocal music. When blessed with an hour of free time, I like to run (or sail) along the Charles River, work out, take in a symphony concert, or play piano."



Sarah E. Kavli

University of North Dakota

Grand Forks, North Dakota
Mechanical Engineering
Bachelors of Science, May 2006



NASA Academy Research Project:

Oriented Nanocomposite (O.N.E.)
Principal Investigators: Dan Powell, Code 542, Dr.
Hugh Bruck UMCP, Carl Stahle Code 553.0

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Grand Forks, ND 58202

Permanent Address:

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Pisgah Forest, NC 28768

Academic and Research Experience

- *University of North Dakota - Grand Forks, ND, Aug 2001 - Present*
- *NASA Langley Undergraduate Student Research Program, Intern - Hampton, VA, Fall 2003*
Conducted laboratory research on Radial Field Diaphragm (RFD) actuators. Paper to be presented and published at the Actuator Conference (Germany, Summer 2004)
- *Dakota Space Training and Research Internship (NDSTaR), Intern - Grand Forks, ND, Summer 2003, Jan 2004*
Conducted detailed research on greenhouse integration issues for interplanetary colonization. Guest speaker and poster session participant at the Space on the Prairie Conference (Grand Forks, ND, Aug 2003) and at Habitation 2004, an AAIA sponsored conference, (Orlando, FL, Jan 2004). Paper published in Habitation journal
- *NASA Experimental Program to Stimulate Competitive Research (EPSCoR), Marsport Design Team Member - Grand Forks, ND, Fall 2001 - Spring 2002*
Researched and designed a detailed Mars Base. Team leader for the structures and design team. Attended Space and Robotics Conference (Albuquerque, NM, Apr 2002)

Memberships and Activities

- Dakota Space Society, Public Relations Officer, 2001 - 2003
- Women in Aviation, Member, Fall 2002 - Spring 2003
- Alpha Eta Rho Aviation Fraternity, Member, Fall 2002 - Spring 2003
- University of North Dakota Mathematics Learning Center, Tutor, 2001 - 2003
- Aerospace R/C Club, Member, Fall 2001- Spring 2003

- Weekly Campus Crusade Bible Study Leader, 2002 - 2003
- Making a Difference Foundation, Tutor, 2003
- Homeless Ministry, Volunteer, 2003
- Northland Rescue Mission Homeless Care Center, Volunteer, 2004

Skills and Certifications

- Computer Skills: Proficient in Microsoft Software, Sigma Plot, ProEngineer 2001, Fortran, MathCad, Matlab, Labview
- Private Pilot's License, currently working additional pilot ratings

Honors and Awards

- North Carolina Community Foundation Scholarship, 2001-2005
- Buddy Melton Memorial Scholarship, 2001
- UND Aerospace Departmental Scholarships, 2001-2002, 2002-2003
- North Dakota Space Grant Consortium Fellowship, 2004, 2004
- Council on Undergraduate Research Poster on the Hill Session, Poster Presenter, 2004

Hobbies and Interests

Art, physical fitness, playing guitar, hiking, biking, climbing, gardening

Personal Statement

"I have had many obstacles and challenges in my life and all of them have helped me to establish who I am and my purpose and priorities in life. Moving to Thailand at the age of seven and growing up overseas, with my missionary parents, helped me to gain a perspective on life that many others have not been fortunate enough to find. I have held children in my arms with bloated stomachs and watched them die from starvation. I have helped deliver the eighth baby of a woman whom lived in a one-room shack. I have been a part of mobile medical clinics in northern Thailand hill tribe villages, and gone to sleep in tents that were being held targets by the guns of Cambodian guerillas. I was overseas during the Gulf War and made to experience all of the trials that war brings. When I was entering into my freshmen year of high school my family and I moved back to the United States and I attended school in Brevard, North Carolina. I found that I had an extreme passion for math and science and the concept of flight and that lead me to attending the number one aviation school in America, the University of North Dakota. These obstacles have also shown me the truly important things in life, such as family, friends, and above all a relationship with Jesus Christ; all of which are essential to my being who I am. I desire to be a lifelong learner never losing my passion for knowledge, or helping other people. I believe that I have something to contribute to the scientific community through my inventive, unique way of thinking."



Christopher R. Malow

University of Virginia

Charlottesville, Virginia
Chemical Engineering
Bachelor of Science, May 2005



NASA Academy Research Project:

Mars Program Office
Principal Investigator: David Lavery, NASA
Headquarters Code S

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University of Virginia
Charlottesville, VA 22904

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Olmsted Falls, OH 44138

Academic and Research Experience

- *University of Virginia - Charlottesville, VA, Aug 2001 - May 2005*
- *University of Virginia Division of Technology, Culture, and Communication, Teaching Assistant, TCC 200R: Scientific and Technical Thinking - Charlottesville, VA, Mar 2002 - Present*
Led a team of students to design, program, and implement a classroom role-playing simulation about Mars Exploration. The simulation was used for six classes in both Fall 2002 and Fall 2003. Assisted the class professor in writing a National Science Foundation grant proposal in 2002.
- *U.S. House of Rep. Subcommittee on Space and Aeronautics, Summer Intern - Washington, DC, May 2003 - Aug 2003*
Researched organizational factors contributing to the Space Shuttle Columbia Accident. Researched history of U.S. manned spaceflight policy and wrote policy recommendations for the committee's policy response to the Columbia accident. Prepared a policy paper on U.S. foreign policy toward European global positioning satellite systems
- *NASA Glenn Research Center / Ohio Aerospace Institute. Engineering Aide, Cleveland, OH, Jun 2000 - Aug 2000, May 2001 - Aug 2001, Dec 2001 - Jan 2002, May 2002 - Aug 2002, Dec 2002 - Jan 2003*
Research project on ultraviolet curing of thin-film polyimides and polyesters

Work Experience

- *University of Virginia Residence Life Office, Resident Advisor - Charlottesville, VA, Aug 2002 - Present*

Memberships and Activities

- American Institute of Chemical Engineers (AIChE), Member, 2002 - Present; 2nd Year Representative, 2002 - 2003; 3rd Year Representative, 2003 -2004
- Pediatric AIDS/HIV Care, Volunteer Organizer, Summer 2003
- NASA Means Business Student Competition, Founder and Team Leader, Fall 2001 - Fall 2002

Skills and Certifications

- Computer Skills: Microsoft Office, MathCAD, basic C++ programming
- HAZCOM Certification
- Laboratory Experience: FTIR, UV-VIS, NMR, TGA, DSC, DEA, TGA-FTIR, and GPC analysis equipment

Honors and Awards

- NASA College Scholarship Fund Scholarship, 2001 - 2004
- University of Virginia Rodman Scholar, 2001 - 2005
- University of Virginia Charles R.Thurman Scholarship, 2001 - 2005
- University of Virginia Robert Honse Scholarship, 2003 - 2004
- University of Virginia Intermediate Honors, 2003
- University of Virginia Dean's List, Fall 2001, Fall 2002, Spring 2003
- FEEA Fund Scholarship, 2002 - 2003
- Robert C. Byrd Scholarship, 2001 - 2004

Hobbies and Interests

History, current events, international relations, literature, film, hiking, intramural sports

Personal Statement

"I was born in Cleveland, Ohio in 1983, and since my mother worked as a secretary at Lewis Research Center, I attended the center's day care. Since then, I've always been fascinated by space and the space program. In high school, I had the opportunity to work as a research intern at NASA Glenn, and in college, I have pursued a major in chemical engineering in order to gain a deep technical understanding of a wide variety of space-related engineering disciplines. More recently, attending the University of Virginia has given me the chance to explore the practical and political aspects of the space program through an internship at the House Space and Aeronautics Subcommittee, participation in the NASA Means Business program, and funded research travel to Britain last winter. This summer, I hope to explore this experience and expand it further by attending the NASA Academy program."



Joleen K. Miller

Villanova University

Villanova, Pennsylvania
Astronomy and Astrophysics
Bachelors of Science, May 2004



NASA Academy Research Project:

JOVE

Principal Investigator: James Thieman, Code 633

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Weatherly, PA 18255

Academic and Research Experience

- *Villanova University - Villanova, PA, Aug 2000 - May 2004*
- *Harvard-Smithsonian Center for Astrophysics, Intern - Cambridge, MA, Jun - Aug 2003*
Developed code to calculate velocity offsets between the calibration spectra of the Advanced Fiber Optic Echelle (AFOE) spectrograph. Poster presentation at the 203rd American Astronomical (AAS) Meeting (Atlanta, GA, Jan 2004)
- *Villanova University Astronomy Department, Research Assistant, - Villanova, PA, May 2002 - May 2004*
Modeled spectra of Symbiotic binary systems to determine physical parameters of the systems. Poster presentation at the 202nd AAS (Nashville, TN, May 2003)
- *Villanova University Astronomy Department, Teaching Assistant - Villanova, PA, Jan 2001 - May 2004*

Publications

- *Synthetic Spectral Analysis of the Hot Component of the S-Type Symbiotic Variable SY Muscae*
Miller J., Kolb K., Sion E. (2003). Submitted to Astronomical Journal.
- *Synthetic Spectral Analysis of the Hot Component in the S-Type Symbiotic Variable EG Andromeda*
Kolb K., Miller J., Sion E. (2003). Submitted to Astronomical Journal.
- *Determination of Age, Rotation, and Magnetic Activity Relations for dG, dK, and dM Stars: A Search for Candidates that may be Suitable for Life*
J.W. Drescher, E.F. Guinan, L.E. DeWarf, G.P. McCook, R.T. Hamilton, I. Ribas, L.M. Barge, J.K. Miller, K. Kolb; AAS Meeting 202; #39.04; 05/2003.

Memberships and Activities

- American Astronomical Society, Junior Member, 2003-2004
- National Society of Collegiate Scholars, Member, Apr 2001 - Present
- Sigma Pi Sigma Physics Honor Society, Member, Apr 2003 - Present
- Phi Kappa Phi National Honor Society, Member, Apr 2003 - 2004
- Phi Beta Kappa National Honor Society, Member, Apr 2004-Present
- Villanova Astronomical Society, President, 2003 - 2004;
Vice-President, 2002 - 2003; Member, 2000 - 2004
- Villanova Voices, Member, 2000 - 2004
- Chamber Choir, Member, 2003 - 2004
- Villanova Karate Club, Member, 2002 - 2004
- Urban Bridges Mentoring Program, Member, 2002 - 2003
- "New Student Retreat" Leader, Summer 2002
- Habitat for Humanity, Service Trip, Spring Break 2002

Skills and Certifications

- Computer Skills: C and C++, LISP, IDL, Windows, UNIX, emacs, pico, Microsoft Word, Excel, PowerPoint
- Research Skills: CCD imaging, photometry, spectroscopy

Honors and Awards

- Barry M. Goldwater Scholarship, 2003
- Father Jenkins Scholarship for VU Astronomy Majors, 2001 - 2004
- Edwin Baily Scholarship for Astronomy Freshman, 2001
- Deans List, Fall 2000 - Fall 2003 (every semester)
- NSF Graduate Fellowship, Honorable Mention

Hobbies and Interests

Singing, reading, cognitive science, playing basketball, snowboarding

Personal Statement

"I grew up in a small town in Northeast Pennsylvania, graduating from a public high school with a class of only 65 students. I was very active in my school and community, participating in athletics, music groups, church youth groups, 4-H, and other extra-curricular activities including Science Olympiad, which led to my decision to pursue astronomy in college. My brothers, first cousins and I are the first generation in my family to attend college, and I am the first to pursue a degree higher than a Bachelor's degree. Ambitious and enthusiastic, I have taken advantage of as many opportunities as possible to learn more about astronomy and the career possibilities available to me. I am interested in the NASA space program because it is at the heart of the scientific discovery and innovation that drives my curiosity. It also makes strong educational outreach efforts, which I value highly. My tutoring experiences have taught me first-hand the rewards of helping others appreciate the science that I love."



Johns Hopkins University

Baltimore, Maryland
Physics
Bachelor of Arts, May 2003



NASA Academy Research Project:

An Alignment Cube for Cryogenic, Optomechanical Assemblies

Principal Investigators: Ray Ohl, Carl Strojny, John Hagopian, Henry Sampler Code 551

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3205 S. Ridgecrest court
New Berlin, WI 53151

Academic and Research Experience

- *Johns Hopkins University - Baltimore, MD, 1999 - 2003*
- *Space Telescope Science Institute, Research Assistant - Baltimore, MD, Oct 2003 - Present*
Research of Formaldehyde in the Interstellar Medium as a tracer for dark molecular and dust clouds; Testing of Limitations of the Space Interferometry Mission (SIM) via software simulation.
- *Johns Hopkins University/Fermi National Accelerator Laboratory, Research Assistant - Batavia, IL, Jun 2003 - Oct 2003*
Search for decay of Lambda B particle (to a Kaon and three pions) via blind analysis of data taken at the Collider Detection Facility (CDF).
- *Johns Hopkins University/Condensed Matter Workgroup, Research Assistant - Baltimore, MD, Jan 2000 - Jan 2002*
Development of apparatus for testing electrical properties of Iron-Cobalt at high temperatures.

Work Experience

- *Johns Hopkins Academic Advising, Physics and Mathematics Tutor - Baltimore, MD, Oct 2002 - May 2004*
- *Ruby Tuesday Server, Bartender, Host - Baltimore, MD, Aug 2001 - Dec 2001*
- *Blockbuster Entertainment, Customer Service Representative - Brookfield, WI, Jun 2000 - Aug 2000*
- *Johns Hopkins Instructional Television, Camera Operator - Baltimore, MD, Sep 1999 - May 2000*

- *Target Corp., Customer Service Representative - Brookfield, WI, Jun 1999 - Sep 1999*

Memberships and Activities

- Society of Physics Students, Member, 1999 - 2003; Officer, 2002 - 2003
- Planning observing runs on the Physics Department's large Cassegrain telescope.
- Model rocketry
- Mentored middle school student

Skills and Certifications

- Computer Language/System Proficiency: C, ROOT, HTML, DOS/Windows, Unix/Linux
- Language Proficiency: Working knowledge of Spanish; familiarity with French; novice understanding of Irish Gaelic

Honors and Awards

- Dean's List, Spring 1999 - 00, Spring 2001 - 2002, Spring 2002 - 2003
- Trustee Scholarship, 1999 - 2003
- Hess Memorial Scholarship, 2001 - 2003
- National Achievement Scholarship, 1999 - 2003

Hobbies and Interests

Basketball, singing, piano, comic books, drawing, and Irish Gaelic

Personal Statement

"We're gonna have the biggest rave in space when we get out there, man. And, we're inviting everybody . . . PartyStar Intergalactica! Bliddy! Then, I'm gonna take my kids on a Sunday drive out near the Oort Cloud, . . . and there won't be any bloody McDonalds!

By then, I'll be senile and telling them, 'Ya know, in my day sonny, we had to use chemical props to get all the way out here; we didn't have these fancy EM-Gravitic drives. It took us years to get out here, too, none of this relativistic Nords/sec-velocity crap!

To get there, I'm psyched for debate, an exchange of ideas, and a willingness to humiliate ourselves (share crazy ideas) for the betterment of our people, and . . . well, for laughs too, I guess."



University of Kansas

Lawrence, Kansas
Aerospace Engineering
Bachelors of Science, December 2005



NASA Academy Research Project:

Colloidal MEMS Thruster
Principal Investigator: Eric Cardiff, Code 597, Brian
Jamieson, Code 553

E-mail:

loralohara@yahoo.com

Current Address:

9310 Indiana Street
Lawrence, Kansas 66044

Permanent Address:

4919 Keneshaw Street
Sugar Land, Texas 77479

Academic and Research Experience

- *University of Kansas - Lawrence, KS, Aug 2001 - May 2005*

Work Experience

- *Jet Propulsion Laboratory, Intern - Pasadena, CA, Jun - Aug 2003*
Captured and catalogued residual flight hardware for several programs (MER, SRTM, MLS/TES), and Mars Scout proposals. Worked with critical flight hardware in a clean room environment.
- *Greater Houston Pool Management, Manager / Lifeguard - Houston, TX, Summer 2001, 2002*
- *Finish Line Sports, Sales Assistant - Sugar Land, TX, Aug 2000 - Jan 2001, Jul - Aug 2002*

Memberships and Activities

- American Astronomical Society (AAS), Member, 2003 - Present;
Student Chapter Public Outreach Chair, 2004
- Kansas Crew Team, Member, Aug 2001 - Present; President, 2004;
Captain, 2003
- Rocket Systems Development Organization; Member, Sept 2003 -
Present; Publicity Chair, 2004; Secretary, 2003
- American Institute of Aeronautics and Astronautics (AIAA),
Member, Jan 2003 - Present; Shuttle Simulator Project Manager
- Sigma Gamma Tau, Member, May 2003 - Present
- University of Kansas Leadership Challenge, Attendee, Jan 2004

Skills and Certifications

- Computer Skills: Aero-CADD, Unigraphics, C++ programming language, MATLAB, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, HTML
- Private Pilot's License, September 2000
- Aerospace coursework: Aerodynamics, Fluid Mechanics, Airplane Performance, Structural Analysis and Design I and II (including NASTRAN/PATRAN), Flight Dynamics and Automatic Flight Controls I and II, Reciprocating Propulsion, Jet Propulsion, Rocket Propulsion

Honors and Awards

- University of Kansas Scholarship (full four year scholarship)
- University of Kansas School of Engineering Scholarship (four years)
- Most Valuable Rower, Kansas Crew, 2003
- University of Kansas Engineering Dean's List, 2002
- National Merit Finalist, 2001
- Houston Livestock Show and Rodeo Art Scholarship, 2001

Hobbies and Interests

Rowing, running, flying, painting, drawing, reading books and magazines, working on my truck, hiking and camping with my family, going to the beach, surfing, playing Frisbee, learning new skills, traveling, exploring

Personal Statement

"I chose Aerospace Engineering due to a love of flying, airplanes, and creative problem solving. After graduation, I plan to attend graduate school in Aerospace Engineering or Geology. While I am unsure of what path I will choose, I cannot imagine anything more incredible than being one of the first scientists or engineers on Mars! I am also interested in public outreach at NASA, and manage a program that teaches local elementary and middle school kids about space and rockets.

My diverse interests and experiences have exposed me to a broad variety of people, teaching me to be responsive to others' reactions. I am ambitious and always on the move, working best when I have several "projects" going on at once. I enjoy learning new things, and love anything with a little risk involved! In my younger days I would plan exciting careers for myself, from being a cowboy to doing mountain search and rescue, but astronaut has always topped the list. I admire the passion that the scientists and engineers in the space program have for their work, and look forward to being part of such a noble endeavor."



Stephen A. Steiner

University of Wisconsin - Madison

Madison, Wisconsin
Chemistry
Bachelors of Science, May 2004



NASA Academy Research Project:

Composite Coating for Passive Cryogenic Cooling
Principal Investigator: Alan Kogut, Code 685

E-mail:

ssteiner@transuranium.com

Current Address:

1001 W. Brentwood Lane
Glendale, WI 53217

Permanent Address:

1001 W. Brentwood Lane
Glendale, WI 53217

Academic and Research Experience

- *University of Wisconsin - Madison, WI, Aug 2000 - May 2004*
- *University of Wisconsin Department of Chemistry, Research with Professor Robert West - Madison, WI, 2001 - 2004*
Research in synthetic organosilicon chemistry
- *NASA Reduced Gravity Student Flight Opportunities Program, Researcher - Houston, TX, 2001, 2002, 2003, and 2004 Programs*
Research on the effects of gravity on aerogel formation. Lead one of the only teams ever to receive four consecutive grants
- *Nicolet High School, Independent Researcher - Glendale, WI, Sep 1997 - May 2000*
Aerogel Formation: A New Approach Using a Rapid Gelation Two - Step Catalysis (2000); Design and Construction of a Home-Built Supercritical Extractor (1999); Zero-Valent Remediation: Degradation of Trichloroethylene by Use of Common Metal (1998); Design and Construction of a Home-Built Hydrogen Fuel Cell System (1997)

Publications

- *Effects of Gravity on the Formation of Silica Aerogels*
Journal of Non-Crystalline Solids. Submitted for review Jan 2004.
- *A Stable Pentacoordinate Silapentalene*
Co-Author, Organometallics. Submitted for review May 2004.

Patents

- *Various Methods for Weightless Production of Silica Aerogel*
- *A True Color Three-Dimensional Volumetric Display Based on a Novel Two-Photon Upshifting Aerogel Composite*
- *Method for Preparation of Silica Aerogel Precursor by a Rapid Gelation, Two-Step Catalysis*

Work Experience

- *Aerogel Technologies, LLC, Founder - Milwaukee, WI, Feb 2004*
- *Zero-G Corporation, Flight Attendant and Coach - Fort Lauderdale, FL, Jan 2004 - Present*
Flight attendant and coach for reduced gravity parabolic flights
- *University of Wisconsin Department of Chemistry, Analytical Stockroom Assistant - Madison, WI, Sep 2000 - May 2002*
Structure solving, crystallographic information processing, and development of crystallography software

Skills and Certifications

- FAA-Certified Part 121 Flight Attendant, Amerijet International
- Computer skills: Visual Basic, C/C++, Pascal, Java, HTML, JavaScript, CGI, hardware design and construction
- Language Skills: English, Spanish, Italian, Russian (intermediate)
- Inorganic and organic synthesis (Schlenk technique, purification, handling air- and moisture-sensitive compounds)
- High pressure/supercritical chemistry and engineering
- Advanced circuit design and construction
- X-ray crystallography (data collection and structure determination)
- Sol-gel materials processing
- NMR spectroscopy (^1H , ^{13}C , and ^{29}Si)

Honors and Awards

- Daniel Sherk Award for Excellence in Undergraduate Research, 2003
- Wayland Noland Summer Research Fellowship, 2001, 2003
- National Starch and Chemical Fellowship, 2001
- Intel Achievement Award for Conducting Research Without the Resources of a Laboratory or Mentor Scholarship, 2000
- Second Place in Chemistry Internationally at the Intel International Science and Engineering Fair, 2000 with NASA Award for Research Excellence and All-Expenses Paid Trip to Advanced Space Academy
- First Place at the Junior Science, Engineering, & Humanities Symposium with Admission and Full-Tuition Scholarship to the University of Wisconsin—Madison and U.S. Air Force Scholarship
- Helen P. Conley Citizenship Award, Glendale, WI, 1996

Hobbies and Interests

Space, language, piano composition, trumpet, electronics, computer programming, mentoring high school science researchers, weightlifting

Personal Statement

"Until I can say 'answer the videophone in my flying car' to the robot who cleans my Lunar apartment, it is not the future, and I will not rest."



Jacob G. Stich

Pittsburg State University

Pittsburg, Kansas
Electronics Engineering Technology
Bachelors of Science, May 2005



NASA Academy Research Project:

Forward and Backscattering Measurements of
Rainfall using the NASA Microwave Link
Principal Investigators: Rafael Rincon, Code 555,
Robert Meneghini Code 975

E-mail:

jacob_stich@yahoo.com

Current Address:

121 W. Park St.
Pittsburg, KS 66762

Permanent Address:

7250 130th Rd.
Chanute, KS 66720

Academic and Research Experience

- *Pittsburg State University - Pittsburg, KS, Aug 2001 - May 2005*
- *Wallops Flight Facility, Project Leader of Pittsburg State Group - Wallops Island, VI, Oct 2003 - Apr 2005*
Research project concerning the effects of acceleration on crystal oscillators onboard sounding rockets for Wallops Flight Facility

Work Experience

- *Pittsburg State University Electronics Engineering Technology Department, Student Employee - Pittsburg, KS, Sep 2001 - Present*
Responsibilities included: repairing and maintaining computers and software; troubleshooting computer network; training new employees; configuring and installing new laboratories
- *Kansas Communications Systems, Inc., Certified Toshiba Key Telephone Systems Technician - Chanute, KS, May 2002 - Oct 2003*
Responsibilities included: installing, maintaining, troubleshooting business integrated and stand alone telephone systems; performing in-house computer repairs and projects

Memberships and Activities

- Pittsburg State University Electronics Engineering Technology Academic Honors Program, Sep 2003 - May 2005
- Instrumentation, Systems, and Automation Society (ISA), Member, 2001 - Present; President, 2003 - Present
- Institute of Electrical and Electronic Engineers (IEEE), Member, 2001 - Present
- Omicron Delta Kappa Honor Society, Member, 2003 - Present

Skills and Certifications

- Computer Skills: Networking, CAD and engineering software, Microsoft Office, PSpice and MultiSIM
- Electrical and electronic troubleshooting and design
- Public Speaking
- Telephone system install and maintenance
- Farm equipment repair and troubleshooting
- Welding and metal fabrication
- Technical and Professional writing
- Toshiba Telephone System and Voice Over IP Certification

Honors and Awards

- Pittsburg State University Departmental Academic Honors, 2004 - 2005
- Kansas Space Grant Scholarship, Spring 2004
- Pittsburg State University President's Office Crimson Club, 2002 - 2004
- Pittsburg State University All A Academic Honors, 2001 - 2004
- Cherokee Nation Higher Education Undergraduate Scholarship, 2001 - 2004
- Walter Best Scholarship, 2001 - 2004
- Noretta B. Caldwell Scholarship, 2003 - 2004
- Selected for Nations Deans List, 2002 - 2003
- Honors College at Neosho County Community College, Member, 2000 - 2001

Hobbies and Interests

Designing/Inventing/Imagining new, creative, and useful electronic/mechanical inventions including: bionic ear, remote controlled ATV winch, alert system for the SRS office in Pittsburg, KS, and PLC program for local water booster plant. Troubleshooting/building computers, networking, increase personal productivity, spending time with family and fiancé, baseball, basketball

Personal Statement

"I was raised on a farm in southeast Kansas. In junior high and high school, I was home schooled so that I would have more time to help my father on the farm. I played baseball and basketball. I was president of my 4-H club for two years while being a member for 12 years. Growing up, I was taught that hard work is the only way to succeed. I still possess that mindset today; I love challenges! In word or action, I always try to set an example for all of my peers, and I do everything wholeheartedly. I am never satisfied with my second best."



The NASA Goddard Academy is administered and operated within the GSFC University Programs Office.

Program Director

Dr. Vigdor L. Teplitz

Dr. Teplitz directs the University Programs Office and provides vision, inspiration, and leadership for the Academy and other programs offered by the Office. He joined Goddard at the beginning of 2003 on a three-year leave of absence from the Physics Department of Southern Methodist University. His previous experience includes academic appointments at MIT and Virginia Tech, as well as twelve years in the U.S. Arms Control and Disarmament Agency and two years in the White House Science Office. His research is in elementary particle theory, primarily at its border with astrophysics and cosmology.

Program Co-Director

Dr. Richard P. Fahey

Dr. Fahey serves as Deputy Chief of the University Programs Office. Prior to Dr. Teplitz's arrival, he led the University Programs Office as Acting Director for several years both before and after Jerry Soffen's death. For the past three decades, he has been developing methods of presenting aspects of relativity and quantum theory to specialist and non-specialist audiences. During that time, he has taught courses in physics, astronomy, relativity and cosmology, aerospace engineering, and the philosophy of nature. Dr. Fahey currently conducts research in cosmology and gravitational wave detection at GSFC. He also holds the Naval Space Command Research Chair at the U.S. Naval Academy in Annapolis.

Program Co-Director

Dr. Richard C. Henry

Dr. Henry is Professor of Physics and Astronomy at The Johns Hopkins University in Baltimore, Maryland, and Director of the Maryland Space Grant Consortium. From 1976 to 1978, he was Deputy Director of the Astrophysics Division at the NASA Headquarters. He is an expert in the astrophysics of diffuse background radiation, particularly the diffuse background in the ultraviolet part of the electromagnetic spectrum. He has served as Co-Director of the Academy since his appointment to that role by the late Jerry Soffen, founder of the Academy. He has been a regular lecturer at the Academy, presenting the foundations of quantum mechanics and other aspects of physics and astrophysics. Dr. Henry is a staunch supporter of the Academy program, its participants, and alumni.

Program Manager

Mr. David Rosage

Mr. Rosage has served NASA in various technical roles (ME) between 1980 and 2000, and as Program Manager of the Academy since 2000. Besides managing the NASA Academy Program for Goddard, he is responsible for short and long-term program improvements, expansion of the Academy to all NASA centers, enabling international participants, and increasing Academy alumni involvement and their awareness to the NASA community.

Dean of Academic Affairs

Dr. Joseph Di Rienzi

Joseph Di Rienzi is a Professor of Physics at the College of Notre Dame of Maryland and a Visiting Scientist at NASA/Goddard Space Flight Center's Laboratory of Astronomy and Solar Physics. Dr. Di Rienzi received his Ph.D. in Physics from the Polytechnic Institute of New York and his B.S. from Brooklyn Polytechnic Institute. His research interests are in theoretical physics, in particular atomic physics and the foundations of quantum mechanics. He works at Goddard with Dr. Richard Drachman on theoretical modeling of matter-antimatter reactions, and currently they are investigating the scattering of positronium with helium. Dr. Di Rienzi has had a long association with the NASA Academy. He served under Dr. Soffen as the original Dean in 1993 and 1994. He returned again as the Dean in 1999. Dr. Di Rienzi is a long time member of the Selection Committee, and he is really excited to be part of this year's Academic Staff.

Logistics Manager

Mr. Miguel Román-Colón

Miguel is an alumnus of the 2003 NASA Academy at the Goddard Space Flight Center. He just graduated with a Bachelor of Science degree in Electrical Engineering from the University of Puerto Rico at Mayagüez. He also holds a minor in Remote Sensing and Geographic Information Systems from the NASA Partnership for Spatial and Computational Research. This spring, Miguel led a senior research project with the National Oceanographic and Atmospheric Administration (NOAA) conducting satellite and in-situ observations to study the effects of Urban Heat Islands around the Puerto Rican Archipelago. In the fall, Miguel will begin graduate studies in Atmospheric, Oceanic and Space Sciences with further plans to attend the International Space University.

Operations Manager

Ms. Carissa Tudryn

Carissa is an alumna of the 1999 NASA Academy at the Goddard Space Flight Center. She attended The Catholic University of America in Washington DC and graduated with a Bachelor of Mechanical Engineering in 2000. In February 2004, she graduated with dual masters in Mechanical Engineering and Materials Science and Engineering as a Draper Laboratory Fellow from the Massachusetts Institute of Technology. She was actively involved with NASA Means Business and Mars Society educational outreach. She also has competed in marathons, triathlons, a ½ Ironman, and is happy to recruit early morning runners. In the fall, Carissa will begin working in the MEMS field at a NASA Center.

Program Support and ISU Liaison

Ms. Kim Terrell

Kim is serving the Goddard Academy as the International Space University (ISU) alumni staff person. She will graduate in July from the ISU Master of Space Studies program, Strasbourg, France. During her undergraduate studies she completed four summer internships at Goddard, one in which she helped to develop and run the predecessor to the Summer Internship Program (SIP). She earned her Bachelor of Science Computer Engineering degree from the Illinois Institute of Technology in 1998 and has since been serving as a Goddard contractor.

IT and General Support Manager

Mr. Johnny Erickson

Johnny has a B.S. in Computer Science and is the co-founder of a software design company. A pillar of the 2002 and 2003 Goddard Academy, Johnny is an enthusiastic and devoted supporter of the Academy and its Alumni Association.

In the operation of the NASA Academy, Miguel, Carissa, Kim, and Johnny will provide general assistance and logistics coordination. They will reside full time at the Academy House and will be available as facilitators in all the relevant program activities.

Academy Alumni Coordinator

Ms. Laura Burns

Ms. Burns is an alumna of the 1996 Academy at the Marshall Space Flight Center and an active member of the NAAA. She currently works at GSFC supporting the James Webb Space Telescope (JWST). As the Alumni Coordinator, Laura informs, recruits, and coordinates alumni participation in all Academy extracurricular activities.

Special Assistants for Operations

Mrs. Mary Floyd

Mrs. Floyd provides support for housing, meals, transportation, and lodging on field trips, and distribution of the Academy participants' financial reimbursements.



- ***NASA Academy:***
<http://www.nasa-academy.nasa.gov/>
- ***NASA Academy Alumni Association:***
<http://www.nasa-academy.org/>
- ***NASA Agency:***
<http://www.nasa.gov>
- ***International Space University:***
<http://www.isunet.edu>
- ***The Soffen Memorial Fund:***
<http://www.nasa-academy.org/soffen/donors.html>
- ***Goddard Space Flight Center:***
<http://www.gsfc.nasa.gov/>
- ***Goddard Space Flight Center's Mission:***
http://www.gsfc.nasa.gov/about_mission.html

